

# LEGISLATIVE RESEARCH COMMISSION

REPORT  
TO THE  
1975

GENERAL ASSEMBLY OF NORTH CAROLINA  
SECOND SESSION 1976



RECEIVED

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INSTITUTE OF GOVERNMENT  
UNIVERSITY OF NORTH CAROLINA

# FISHERIES TRAINING VESSELS

RALEIGH, NORTH CAROLINA



STATE OF NORTH CAROLINA  
LEGISLATIVE RESEARCH COMMISSION  
STATE LEGISLATIVE BUILDING  
RALEIGH 27611



TO MEMBERS OF THE GENERAL ASSEMBLY OF NORTH CAROLINA:

The following report on Fisheries Training Vessels was produced under the direction and supervision of Research Commission member Senator Robert L. Barker. The report was adopted and approved by the full Legislative Research Commission at its June 1, 1976, meeting.

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John T. Henley  
President Pro Tempore of the  
Senate

---

James C. Green  
Speaker of the House of  
Representatives



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GENERAL STATUTES OF NORTH CAROLINA

CH. 120. GENERAL ASSEMBLY

ARTICLE 6B.

*Legislative Research Commission.*

§ 120-30.10. **Creation; appointment of members; members ex officio.** — (a) There is hereby created a Legislative Research Commission to consist of five Senators to be appointed by the President pro tempore of the Senate and five Representatives to be appointed by the Speaker of the House. The President pro tempore of the Senate and the Speaker of the House shall be ex officio members of the Legislative Research Commission. Provided, that when the President of the Senate has been elected by the Senate from its own membership, then the President of the Senate shall make the appointments of the Senate members of the Legislative Research Commission, shall serve ex officio as a member of the Commission and shall perform the duties otherwise vested in the President pro tempore by G.S. 120-30.13 and 120-30.14.

(b) The cochairmen of the Legislative Research Commission may appoint additional members of the General Assembly to work with the regular members of the Research Commission on study committees. The terms of the additional study committee members shall be limited by the same provisions as apply to regular commission members, and they may be further limited by the appointing authorities.

(c) The cochairmen of the Legislative Research Commission may appoint persons who are not members of the General Assembly to advisory subcommittees. The terms of advisory subcommittee members shall be limited by the same provisions as apply to regular Commission members, and they may be further limited by the appointing authorities. (1965, c. 1045, s. 1; 1975, c. 692, s. 1.)

\* \* \* \* \*

§ 120-30.17. **Powers and duties.** — The Legislative Research Commission has the following powers and duties:

- (1) Pursuant to the direction of the General Assembly or either house thereof, or of the chairmen, to make or cause to be made such studies of and investigations into governmental agencies and institutions and matters of public policy as will aid the General Assembly in performing its duties in the most efficient and effective manner.
- (2) To report to the General Assembly the results of the studies made. The reports may be accompanied by the recommendations of the Commission and bills suggested to effectuate the recommendations. (1965, c. 1045, s. 8; 1969, c. 1184, s. 8.)

MEMBERSHIP

Speaker James C. Green Cochairman	President Pro Tem John T. Henley Cochairman
Rep. Glenn A. Morris	Sen. Robert L. Barker
Rep. Liston B. Ramsey	Sen. Luther J. Britt, Jr.
Rep. Hector E. Ray	Sen. Cecil James Hill
Rep. J. Guy Revelle	Sen. William D. Mills
Rep. Thomas B. Sawyer	Sen. Willis P. Whichard



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## INTRODUCTION

In 1974 the General Assembly of North Carolina, by resolution, created a Fisheries Training Vessel Study Commission and directed the Commission to produce a study of the need for training vessels, along with the necessary equipment, available funding and organization of training effort. The creating resolution and a membership list of the Commission is carried in Appendix I. For various reasons the Commission did not meet during the interim period before the convening of the 1975 General Assembly, and no report was produced.

In 1975 the General Assembly again commissioned a study of the fisheries training vessel question. By Chapter 851 of the 1975 Session Laws (see Appendix II) the Legislative Research Commission was directed to study the need for fisheries training vessels and related matters using language identical to the 1974 resolution's description of the study.

The Legislative Research Commission is empowered by G.S. 120-30.17 to study matters assigned by resolution of the previous legislative session. The Research Commission is chaired by the President Pro Tempore of the Senate and the Speaker of the House of Representatives, and each of the co-chairmen appoint five members from their respective houses to serve on the Commission. Traditionally the subjects to be studied are assigned to individual Research Commission members and they supervise the study and bring it back for Research Commission approval. Senator Robert L. Barker is the Research Commission member given responsibility for the Fisheries Training Vessel

Study. The individual Research Commission members have usually worked with a committee of legislators in producing the study; however, in the case of the 1975-76 Study of Fisheries Training Vessels the Research Commission Chairmen did not feel that a committee was necessary. Senator Barker was directed to contact the members of the 1974 Commission and to work with the Research Commission staff in preparing the study. The Fisheries Training Vessel's report resulted from following these special directions and supplementing them with conversations and correspondence with representatives of concerned state departments.

## RESEARCH EFFORTS

In a meeting in the State Legislative Building in late 1975, the purpose of the Fisheries Training Vessels Study was discussed by Senator Barker, a Legislative Services Office staff member, and Mr. Lewis F. Dunn. Mr. Dunn was Executive Director of the North Carolina Fisheries Association, Inc. and a member of the dormant 1974 Study Commission. The main goal is a complete Fisheries Education Program with a training vessel component. The main thrust of the Fisheries Education Program would be through high schools in the coastal area. Presently in the Trades and Industry Section of the Department of Public Instruction there are some fisheries education programs without vessels and some programs without adequate vessels. The interests promoting this study believe that there is a need for a rotation system, or a motor pool approach, using existing community college or other state-owned vessels and newly financed state vessels. They want pooling agreements from existing state agency vessel owners, Community Colleges and possibly other agencies, and they want funding for new vessels to be designed specifically for fisheries education and to be shared by involved agencies. Those who promoted the study believe that a strong fisheries training vessel effort will promote cooperation between the two state education divisions, Public Instruction and Community Colleges, in the joint use of boats, and also in sharing of library facilities and other commonly needed facilities.

Senator Barker directed the staff to prepare Fisheries Training Vessel information requests of the Department of Public



Instruction, the Department of Community Colleges, the Department of Natural and Economic Resources and the State Property Office. Appendices III and IV carry the exchange of correspondence with Public Instruction and Community Colleges and most of the background information supplied by those departments. Appendix V carries an organizational outline showing the personnel and relative positions of (1) the Department of Trades and Industry in the Department of Public Instruction which administers existing fisheries training in North Carolina high schools, and (2) the technical institutes in the Department of Community Colleges that own some vessels. Appendix VI carries a Department of Natural and Economic Resources inventory of state-owned vessels. Appendix VII carries correspondence with the State Property Office on the theory of shared use of state property.

## CONCLUSIONS AND RECOMMENDATIONS

The information gathered in this study concerning fisheries training vessels shows an on-going program of Fisheries Education in the Department of Public Instruction, and in the appendices the report has reproduced a representative sample of the information to allow a reader of the report to become familiar with the program. The inquiry directed by the creating Legislative Research Commission resolution led to an examination of other state agencies that have vessels (Community Colleges, Natural and Economic Resources, etc.), looking at the possibility of use of these other agency vessels by the Public Instruction program. From a superficial examination of now-available information, it appears that most state vessels now controlled by agencies other than Public Instruction would not be suitable for use in a fisheries training program; the vessels are research or patrol craft, and they are not designed or rigged for fishing. Also, there appears to be some willingness in the agencies to discuss sharing existing or future vessels, but there has not been any real discussion of the question in the agencies or in their governing structures.

The real issue of this study is the availability of money to finance construction of vessels suitable for fisheries training, and there is a secondary issue of assignment of the new vessels exclusively to Public Instruction or assigning them wholly or partly to other agencies to be shared with Public Instruction. The decision on the financing issue must come in legislative appropriations process, and before this decision can be made

there must be some assessment of priorities from the concerned agencies. The Board of Education is over the two agencies that are the major actors in potential sharing agreements (Public Instruction and Community Colleges), and the Board is responsible for planning and financial priority policy for Public Instruction's Trades and Industry Section's Fisheries Training. Because of these responsibilities in the Board of Education, the Legislative Research Commission recommends that the Board consider the issue of state financing for more fisheries training vessels for the Public Instruction Fisheries Education Program, and also the issue of the Public Instruction Fisheries Education Program sharing existing or future vessels with Community Colleges or other agencies. After the Board makes its determination on planning of the Fisheries Education program and on priority of vessel construction appropriation, the Legislature will be able to make meaningful decisions on the relative need for an expanded Fisheries Education Program when compared to other competing state interests, and on the availability of funding for the program.



GENERAL ASSEMBLY OF NORTH CAROLINA  
1973 SESSION (2nd SESSION, 1974)

RATIFIED BILL

RESOLUTION 154

HOUSE JOINT RESOLUTION 2064

A JOINT RESOLUTION TO ESTABLISH THE FISHERIES TRAINING VESSEL STUDY COMMISSION.

Be it resolved by the House of Representatives, the Senate concurring:

Section 1. There is hereby created the Fisheries Training Vessel Study Commission which shall have the following duties and responsibilities:

(1) To determine the need for training vessels; to determine the number and kinds of vessels necessary to provide North Carolina's students of vocational fisheries the highest educational, training and experience opportunities; to determine the optimum navigation, safety, propulsion and fishing equipment for each class of vessel; and to make recommendations to the General Assembly and the State Board of Education.

(2) To investigate sources of funding for obtaining and equipping training vessels, and to make recommendations to appropriate agencies that they seek funds.

(3) To establish criteria for dockage, scheduling, maintenance, ownership, insuring, operating and financing for the efficient prosecution of the Vocational Fisheries Program, and to recommend these criteria to the State Board of Education.

(4) To recommend an administrative structure or organization or agency to direct and manage the training vessel program for maximum training opportunities for vocational fisheries students.

(5) To make such other recommendations as may be determined by the Commission to be in the best interest of the training vessel program.

Sec. 2. The Fisheries Training Vessel Study Commission shall consist of:

(1) The Chairman, who shall be a representative of the fishing industry, and who shall be appointed by the Lieutenant Governor;

(2) A teacher of vocational fisheries or marine occupations, who shall be appointed by the Lieutenant Governor;

(3) A representative of a local school administrative unit, who shall be appointed by the Speaker of the House;

(4) A State Senator, who shall be appointed by the Lieutenant Governor;

(5) A State Representative, who shall be appointed by the Speaker of the House.

Sec. 3. The members of the Fisheries Training Vessel Study Commission shall be appointed by the Lieutenant Governor and Speaker of the House within 60 calendar days of the ratification of this resolution and shall serve until resignation or until the Commission does expire. Should a vacancy occur, a replacement shall be appointed who has the same qualifications as the person replaced, as stated in Section 2 of this resolution.

Sec. 4. The Fisheries Training Vessel Study Commission shall exist until June 30, 1975. It shall conduct its business so that matters involving legislative considerations will be reported prior to the convening of the 1975 General Assembly, and matters involving policy and administrative considerations will

be reported prior to the termination of the Commission on June 30, 1975.

Sec. 5. The members of the Commission shall be entitled to receive per diem, subsistence, and expenses allowable to members of State boards and commissions generally, pursuant to G.S. 138-5. Staff assistance and clerical help shall be supplied by the State Board of Education.

Sec. 6. The Commission shall adopt its own rules of procedure and shall meet at such times and places as it may deem necessary to carry out its functions. The Commission is authorized to secure from any department, agency, or independent instrumentality of the State government any information it deems necessary to carry out its functions. Each department, agency, and independent instrumentality is authorized to cooperate with the Commission, and to the extent permitted by law, to furnish such information to the Commission, upon request made by the chairman.

Sec. 7. Expenses of the Commission shall be paid from funds made available by the Superintendent of Public Instruction, who is hereby authorized to transfer to the Commission fund from any appropriated but unexpended funds of the Department of Public Instruction.

Sec. 8. This resolution shall become effective upon ratification.

In the General Assembly read three times and ratified, this the 8<sup>th</sup> day of April, 1974.

JAMES B. HUNT, JR.

James B. Hunt, Jr.

President of the Senate

JAMES E. RAMSEY

James E. Ramsey

Speaker of the House of Representatives

## MEMBERSHIP:

Fisheries Training Vessel Study Commission - 1973 General Assembly, Second Session 1974, RESOLUTION 154 (HJR 2064)

Senator William D. Mills

Representative Ronald E. Mason

Mr. Scott Coble (SCHOOL ADMINISTRATOR)

Mr. Lew F. Dunn (FISHING INDUSTRY REPRESENTATIVE)

Mr. J. P. Miller (TEACHER)

GENERAL ASSEMBLY OF NORTH CAROLINA  
SESSION 1975  
RATIFIED BILL

CHAPTER 851

HOUSE BILL 296

AN ACT TO DIRECT THE LEGISLATIVE RESEARCH COMMISSION TO STUDY  
VARIOUS MATTERS.

The General Assembly of North Carolina enacts:

Section 1. The Legislative Research Commission is directed to study the following issues, designing the individual study efforts as described in the other sections of this act:

- (1) Services for the blind (H. 296);
- (2) The office of magistrate (H. 720);
- (3) Land records information systems (H. 785);
- (4) North Carolina laws on sex discrimination (H. 845, S. 668)
- (5) Problems in foreclosure law (H. 893);
- (6) Fire and casualty insurance rate regulation (H. 1214);
- (7) State licensing boards (H. 1223);
- (8) Need for compensation of victims of crimes (H. 1202);
- (9) Means to increase the level of professionalism and efficiency of local building inspectors (S. 325);
- (10) The effect of the tax-exempt status of State-owned property upon local government revenue (S.765); and
- (11) The possibility of State operation of a fisheries training vessel program (S.855);
- (12) Emergency Medical Care and Services;

\* \* \* \* \*

- (13) The operation of the North Carolina Department of Correction's Prison Enterprises Division (H. 1265, S. 806);
- (14) Programs available to females committed to the Department of Correction (H. 20, S. 24);
- (15) The need for an actuarial services division within the Department of State Treasurer (H. 331);
- (16) The feasibility of using inmate labor in Department of Correction construction (S.606);
- (17) The problems of the hearing aid business (S. 630);
- (18) The relationship between the Division of Community Colleges and the State Department of Public Instruction (S. 909);
- (19) The problem of sexual assaults in North Carolina (H. 816); and
- (20) The funding, benefits, and operations of the Retirement System (H. 994).

Sec. 2. In its study of services for the blind the Legislative Research Commission shall inquire into the responsibilities for services to the blind of North Carolina, and the current operating practices of the North Carolina Department of Human Resources and North Carolina Library for the Blind and Physically Handicapped. The study shall embrace: (1) present services to the blind, (2) ways of achieving greater effectiveness in rendering services, and (3) possible expansion and strengthening quality of services to the blind.

Sec. 2.5. In its study of emergency medical care and services the Legislative Research Commission shall inquire into

\* \* \* \* \*

Sec. 11.1. In its study of the fisheries training vessel issue the Legislative Research Commission shall have the following responsibilities:

(1) To determine the need for training vessels; to determine the number and kinds of vessels necessary to provide North Carolina's students of vocational fisheries the highest educational, training and experience opportunities; to determine the optimum navigation, safety, propulsion and fishing equipment for each class of vessel, and to make recommendations to the General Assembly and the State Board of Education.

(2) To investigate sources of funding for obtaining and equipping training vessels, and to make recommendations to appropriate agencies that they seek funds.

(3) To establish criteria for dockage, scheduling, maintenance, ownership, insuring, operating and financing for the efficient prosecution of the Vocational Fisheries Program, and to recommend these criteria to the State Board of Education.

(4) To recommend an administrative structure or organization or agency to direct and manage the training vessel program for maximum training opportunities for vocational fisheries students.

(5) To examine the motor pool approach to State-owned vessels where all departments would have access to some use of vessels now under exclusive departmental control.

\* \* \* \* \*

\* \* \* \* \*

Sec. 13. For the purpose of producing the studies directed by this act and other expressions by the General Assembly, one hundred thousand dollars (\$100,000) is appropriated for use during the 1975-76 and 1976-77 fiscal years by the Legislative Research Commission. This appropriation shall be in addition to any other appropriation to the use of the Legislative Research Commission, and any amount not expended in the first fiscal year 1975-76 shall be available to the Research Commission in the second year 1976-77.

Sec. 14. In its study of the operation of the North Carolina Department of Correction's Prison Enterprises Division, the Legislative Research Commission shall include an investigation of Prison Enterprises' relationship to privately operated businesses, of the management goals of the Department of Correction in this division, and of the attitudes of private business interest in competition with Prison Enterprises.

Sec. 15. This act shall become effective upon ratification.

In the General Assembly read three times and ratified, this the 25<sup>th</sup> day of June, 1975.

-----  
JAMES B. HUNT, JR.

James B. Hunt, Jr.

President of the Senate

-----  
JAMES C. GREEN, SR.

James C. Green, Sr.

Speaker of the House of Representatives





North Carolina General Assembly  
Senate Chamber  
State Legislative Building  
Raleigh 27611

SENATOR BOB L. BARKER  
14TH DISTRICT  
HOME ADDRESS: 14116 WYNOFIELD CIRCLE  
RALEIGH, N. C. 27609

October 30, 1975

COMMITTEES:  
INSURANCE, CHAIRMAN  
AGRICULTURE  
BANKING  
FINANCE  
RULES AND OPERATIONS OF  
THE SENATE  
STATE GOVERNMENT

Dr. A. Craig Phillips  
Superintendent  
N. C. Department of Public Instruction  
Education Building  
Raleigh, North Carolina 27611

Dear Dr. Phillips:

By the ratification of House Bill 296 from the 1975 General Assembly (S.L. 1975, c.851; copy enclosed) the Legislative Research Commission was directed to study a state fisheries training vessel program and to "examine the motor pool approach to State-owned vessels where all departments would have access to some use of vessels now under exclusive departmental control." I have been appointed to the Research Commission and given the responsibility for planning the training vessel study.

I am told that the main thrust of the efforts supporting the study was a desire to find training vessel facilities for existing and planned expansion programs of fisheries training through high school occupational education under the Department of Public Instruction. In order to begin planning for the study, I would like to have some preliminary written comments from the Department of Public Instruction on the possibility, desirability, appropriateness, etc., of using existing vessels from other departments in the Department of Public Instruction occupational education programs. I would also like to have some background information on the nature of the Department of Public Instruction's current and proposed fisheries training programs in the Trade and Industries Department in the Division of Occupational Education.

Sincerely,

Bob L. Barker

BLB:hc

Encl.

DEPARTMENT OF PUBLIC INSTRUCTION



STATE OF NORTH CAROLINA

RALEIGH

December 1, 1975

Senator Robert L. Barker  
North Carolina General Assembly  
Senate Chamber - Room 2003  
State Legislative Building  
Raleigh, North Carolina 27611

Dear Senator Barker:

In response to your request concerning information pertaining to the Marine Science Occupations programs in existence at the secondary level of our public school system, the following information should be helpful relative to these specific topics (exhibits are enclosed): (1) Present Status of Marine Science Occupations Programs, (2) History, (3) Articulation, (4) State Fisheries Advisory Committee, (5) North Carolina Fisheries Association, (6) North Carolina Marine Resources Center, (7) North Carolina Marine Science Council, (8) Proposal, and (9) Need.

Present Status (Exhibits #1 - #4)

Presently, we have ten (10) teachers involved at the high school level who are teaching Marine Science Occupations in either a full-time capacity or part-time. The enclosed map of North Carolina and the list of Marine Science Occupations teachers will show the local administrative units with such programs (Exhibits #2 and #3.) Specific information concerning these programs is contained in Exhibit #4. Administrative units checked with red ink have on-going programs and those checked with blue are coastal LEAs without programs. In those administrative units without programs, I attempted to project the current needs concerning Marine Science Occupations programs.

History (Exhibit #5)

Until the summer of 1972, very little had been done in the area of curriculum development for these programs. During June and July, 1972, a four-week Curriculum Development Workshop was held at Wrightsville Beach, North Carolina. A great deal was accomplished by the 18 teachers (both Marine Science and Marine Occupations) in attendance. Exhibit #5 will give some indication as to the needed teaching units identified by these teachers for curriculum development. Curricula were developed for many of the 87 units identified. However, funds have not been available to have these curriculum materials printed and distributed. A two-week Curriculum Development Workshop was updated and additional units of instruction were developed. The major emphasis of this workshop was to develop additional curriculum materials in the areas of Commercial Fishing at the high school level and Exploratory

units of instruction for the middle Grades area. This workshop included selected teachers from the Middle Grades Programs (Grades 7 - 9), Marine Occupations teachers and Marine Science Teachers at the high school level.

#### Articulation

As indicated, it is obvious that an effort is being made to articulate between the Middle Grades and high school levels, as well as interdisciplinary efforts between occupational and academic subject areas. Articulation is also taking place between some high schools and Community Colleges/Technical Institutes in some administrative units. An example of this is New Hanover County. The high school program there is contracting with Cape Fear Technical Institute to provide a fishing trawler. Also, these two agencies have cooperated on several other occasions concerning their Marine Programs. I am of the sincere opinion that there needs to be a greater degree of articulation taking place between our high school programs and the Community College/Technical Institute systems. To my knowledge, Cape Fear Technical Institute is the only school in the Community College system with marine vessels. However, with more effort on articulation between the two systems, it seems logical that better utilization of existing funds for these program areas could be realized.

#### State Fisheries Advisory Committee

The State Department of Public Instruction, Division of Occupational Education, Trade and Industrial Education section, is presently involved in establishing a State Fisheries Advisory Committee. This effort was recently initiated, but membership of the committee has not been completely determined at this time.

#### North Carolina Fisheries Association

The State Agency has worked very closely with the North Carolina Fisheries Association, Inc. This association has supported our efforts in every way in promoting high school fishing programs. An example of this is indicated in that the Executive Director of this Association served as the Director of our Curriculum Development Workshop this past June.

#### North Carolina Marine Resources Center (Exhibit #8)

The Trade and Industrial Education section has made contact with Mr. Douglas Young, Administrator of the North Carolina Marine Resources Center, as to the purpose and clientele to be served by these Centers. It is our hope that present programs can be tied into these centers at some future time, and we look forward to a closer working relationship with the Office of Marine Affairs.

#### North Carolina Marine Science Council

Several other positive efforts have taken place to solicit support for our Marine Science Occupations programs. An example is that recently Dr. Ted Rollins, Chief Consultant of Trade and Industrial Education programs, met with the Committee on Education

and Manpower of the North Carolina Marine Science Council and explained our programs to the group. He also requested their organizational support as we continue in our effort to grow in both quality and numbers of programs offered.

Proposal (Exhibit #6)

Another effort made in November, 1974, was a special request to the U. S. Office of Education for Vocational Education Research Program funds. This project was called the DEVELOPMENT AND EVALUATION OF A MODEL DELIVERY SYSTEM FOR MARINE SCIENCE OCCUPATIONS AT THE SECONDARY LEVEL OF EDUCATION, (Exhibit #6). However, the U. S. O. E. did not approve the funding of this project. To my knowledge, North Carolina is the only state having successful on-going programs in the area of Marine Science Occupations which serve students to any extent from grades 7 through the post-high school level. Several states are requesting information and materials from North Carolina and are making an effort to pattern their beginning programs after ours.

Need

The greatest needs in this program area seem to be financial in every respect. We have qualified teachers, students desiring the program, commercial fishing labor needs, a virgin coastline, and abundant seafood resources, but inadequate facilities, equipment and support.

It is literally impossible to discuss everything in a letter of this type. Therefore, I am enclosing additional items which may be of some help concerning materials relating to this subject or program area. These items are not numbered individually but as a group.

I shall look forward to meeting with you concerning what we may be able to accomplish with your committee's support. Also, this would be the most logical time to thoroughly discuss the implications of a State Marine Vessel Motor Pool approach.

Sincerely,



Robert A. Mullen  
Deputy Director  
Field Services

RAM/mek

Enclosures

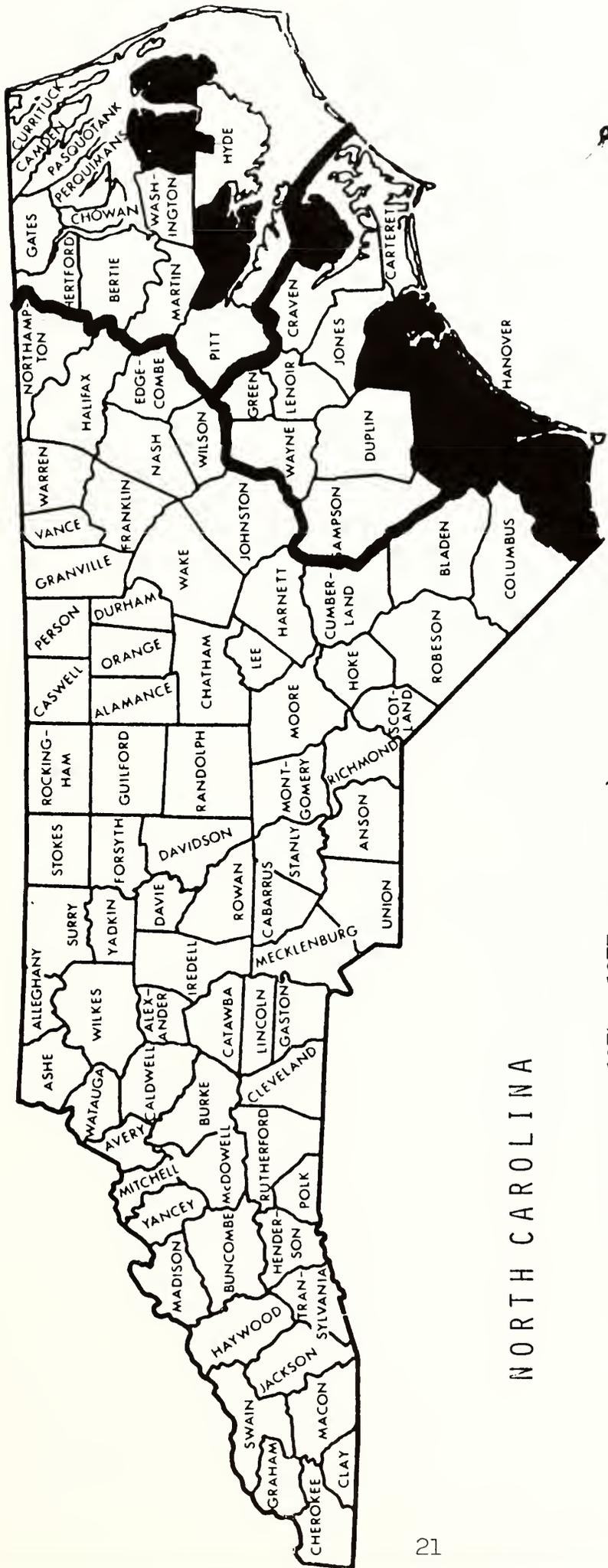
MARINE SCIENCE OCCUPATIONS

Marine Science Occupations Courses involve, primarily, a balanced program of classroom studies and work experiences which has the common objective of producing competent workers in commercial fishing occupations. These courses are particularly designed for those students in high school who are interested in following the sea as a livelihood. Marine Science Occupations Courses will also be beneficial to those students who plan to enter the Navy, Coast Guard or the Maritime service. The units of instruction are presented in such a manner as to be of interest and importance to commercial fishermen, sports fishermen, tugboatmen, or those who ply the inland or international waters on any type of craft.



MARINE SCIENCE OCCUPATIONS  
DIVISION OF OCCUPATIONAL EDUCATION  
DEPARTMENT OF PUBLIC INSTRUCTION

BLUE



NORTH CAROLINA

( EXISTING PROGRAMS - 1974 - 1975 SCHOOL YEAR)



## MARINE SCIENCE OCCUPATIONS TEACHERS

BEAUFORT COUNTY

Joshua K. Wood

J.A. Wilkinson, Belhaven 27810

BRUNSWICK COUNTYBrutus Begley  
Rozell HewettSouth Brunswick, Southport 28461  
West Brunswick H.S., Shallotte, N. C.DARE COUNTY

William Kenneth Brown

Manteo High School, Manteo 27954

NEW HANOVER COUNTY

J. P. Miller

G.H. West Voc. Ed. Center, 9 S. 13th St.,  
Wilmington, N. C.  
28401ONSLOW COUNTYJoseph Huddleston  
William E. SpenderSwansboro High, Swansboro 28584  
Dixon High, Holly Ridge 28445PAMLICO COUNTY

Owen Lupton

Pamlico County High, Bayboro 28515

PENDER COUNTY

Ivey Lewis

Topsail High School, Hampstead 28443

TYRRELL COUNTY

Chester Cooper

Columbia High, Columbia 27925

Mr. Adam J. Thompson, Jr.  
 Program Consultant  
 Marine Science Occupations Programs  
 State Department of Education  
 Room 580, Education Building  
 Raleigh, North Carolina 27611





twin engines. Emphasis is on marine technology, marine vocations and oceanography. Serving a total of approximately 1500 students in some way. (200 of these in full-time programs). There are two oceanography instructors, one marine technology/commercial fishing teacher, four school level marine science occupations positions vacant. 75 - 80% of financial support for total program is from local funds. Follow-up will be approximately 50 - 55% remaining in the industry, either directly or indirectly. Will teach a three hour block next year in marine foods industry. Local plans are to try and hold enrollment at their present level of 200 full time students.

✓  
13.

Onslow County

Teacher: O. B. Maxwell	Principal: R. D. Frazelle
School: Swansboro High	Local Director: George Roberts
Swansboro, NC	Superintendent: E. L. Waters

Type of Program: Marine Vocations  
 How Funded: full-time - regular man-months  
 General Information: Does have access to three vessels located in Marine in Jacksonville, NC Teacher is primarily involved in teaching units in marine vocations (both classroom and on water experience).  
 Projections for Future: Program is destined to grow - needs a vessel located in Swansboro area equipped to do commercial fishing. Is considering offering a course in boat building.

✓  
13

Onslow County (continued)

Teacher: William Spender	Principal: Andrew Canady
School: Dixon High	Local Director: George Roberts
Holly Ridge, NC	Superintendent: E. L. Waters

Type of Program: Marine Vocations/Marineology  
 How Funded: full-time - regular man-months  
 General Information: This instructor is teaching both marine vocations and marineology (vocational and science). Serving approximately 50 students. Has access to boats located in Jacksonville, NC Needs a fully equipped commercial fishing vessel located at Snead's Ferry.  
 Projections for Future: This program will eventually involve an additional teacher. One will teach full-time marine vocations and the other will be full-time in marine biology.

The administrative unit has employed a part-time marine vocations instructor who is a marine diesel instructor and mechanic. He is presently working with the Night School and also makes his services available to the middle grades exploratory programs. LEA plans are to employ a full-time marine vocations teacher for their new high school to be completed in the near future.

✓  
14.

Pamlico County

Teacher: Owen Lupton	Principal: B. G. Potter
School: Pamlico County High	Local Director: Doug Davis
Bayboro, NC	Superintendent: George Brinson

Type of Program: Seafood Industries  
 How Funded: 102-B Special Funds



ADDENDUM: PROGRAM EVOLVEMENT

Trade and Industrial Education had only two marine programs prior to 1968-1969. One of these was marineology in Brunswick County which is experiencing rapid growth. The other was in Carteret County (boat building) and was terminated with the death of the instructor about three years ago.

Then, in 1968-1969 New Hanover County initiated their program in oceanography, which has grown rapidly. It now touches approximately 1500 students in that system per year.

Exhibit # 5

MARINE SCIENCE OCCUPATIONS

CURRICULUM

(WORK SHEETS)

## PREFACE

The Division of Occupational Education of the Department of Public Instruction is vitally concerned with the task of providing today's youth with an opportunity to develop skills and knowledge in areas that require information from both scientific and industrial fields. Many courses included in the Trade and Industrial Division are excellent examples of such a marriage. Marine Science Occupation readily supports this theory.

The Trade and Industrial Program offers many courses that provide skills to be used for immediate employment and also furnishes information that enriches the student's personal activities.

Marine Science Occupation is a rather new endeavor for the schools of North Carolina. For years people worked on and around our seacoast and made a comfortable living. With the expansion of technology, new techniques for these occupations were developed. Then not only did people become interested in the ocean for transportation and food, but also for valuable products that were to be found in the oceans.

Questions concerning the geography, chemistry, biology, and physical aspects of the ocean arose. Finding answers to these questions require co-operative efforts among a team of workers: scientific, technical, and industrial. Marine Science Occupations introduces the student to careers found in each group. Not only does a student learn to handle a boat, pull a trawl net, make a crab pot, but he also learns the "whys" of the biology, chemistry, and geology of the area.

Thus the Marine Science Occupations Program is a practical and rewarding experience for every participant.

A. Craig Phillips  
Superintendent of Public Instruction

#### ACKNOWLEDGEMENTS

The Coordinator and Director of the institute on Marine Science Occupations express their appreciation to all those who assisted in this project.

Mr. Adam J. Thompson and Mr. M. O. Phillips deserve special thanks for their guidance in the institute.

An' next, we express appreciation to the following teachers who prepared the unit plans and learning activity packages:

Peggy Anders	Sampson County
Myron Angell	Onslow County
Brutus Begley	Brunswick County
Frank Chapman	New Hanover County
Ralph T. Davis	New Hanover County
Shirley B. Davis	New Hanover County
Ann Daniluk	New Hanover County
Ophelia B. Gore	Brunswick County
Jack Hamer	Hyde County
Harriss Haskett	New Hanover County
Robert M. Kernon III	Pender County
O. B. Maxwell, Jr.	Onslow County
Douglas Medlin	New Hanover County
Frances B. Needham	New Hanover County
Gerald Nethercutt	Perdico County
Josh K. Wood	Beaufort County

Finally, to Miss Shelley Paul go our thanks for her typing and editing of the materials produced.

Avone J. Williamson Director

James L. Gearhart - Coordinator

SPECIFICATION FORM FOR MARINE SCIENCE OCCUPATIONS

PROGRAM AREA: Marine Science Occupations

DESCRIPTION: Marine Science Occupations is a program designed to give students technical, scientific, and industrial knowledge in occupations concerned with the utilization and conservation of our maritime resources. The program area is divided into the following clusters of instruction: net making and commercial fishing, piloting, small boat seamanship, boat building, simple engine repairing, marine biology, marine chemistry, marine geology, and physical oceanography. Geography and the needs of the community are major considerations in the teaching of marine science occupations. This course is intended for high school students, but parts of it may be successfully integrated into the middle school and elementary school programs. A general program will include units of instruction from each of the cluster.

PURPOSES: To equip students in high school with technical knowledge in pursuing careers in Marine Science Occupations and as career exploration in the middle and elementary grades.

CREDITS: The course may be offered as:

1. A one hour, one year course, with one unit credit for 180 hours.
2. A two hour block, one semester course, with one unit credit.
3. A two hour block, two semester course, with two units credit.
4. A three hour block, two semester course, with three units credit.

SPECIAL OR UNIQUE ASPECTS OF PROGRAM: It is anticipated that the material developed here may be used in a separate course or parts may be integrated in other courses from earth science on up to the most technical courses in oceanography.

PHYSICAL FACILITIES: Classroom, laboratory facilities, body of water, preferably a boat, and a bus.

EQUIPMENT: Oceanographic measurement instruments, wave maker, tanks, aquariums, overhead projector, 16 mm movie projector, filmstrip projector, chemicals suggested in various units.

TEACHER CERTIFICATION: Teachers should be certified and have a working knowledge in the cluster he is instructing. If he is not certified to teach the scientific aspects of the program, he should work with a science teacher in a team effort approach.

RECOMMENDED CLASS SIZE: 20 - 25 students.

EVALUATION:

1. How is the subject taught related to the needs of the community?
2. How many students graduate from high school and go into the field or related fields?
3. How many students go into higher education in this area?

UNIT DESIGN: Each unit is designed with a specified number of minimum and maximum teaching hours. No one course can possibly include every unit offered here. The maximum number of teaching hours is 540 hours. In selecting units to be taught, teacher and administrators should select parts relative to the needs of students and the community.

UNITS OF INSTRUCTION:

1. Netmaking
2. Hanging Nets
3. Making Trawls
4. Scaled Fish
5. Shellfish

6. Other Commercial Fish
7. Trawling
8. Set and Haul Nets
9. Traps
10. Sport Fishing
11. Equipment and Government Regulations for Small Boats
12. Rules of the Road
13. Nautical Terminology
14. Anchoring
15. The Captain: His Duties, and Responsibilities
16. Boat Handling
17. Seamanship Under Adverse Conditions
18. Safety Afloat
19. Cordage
20. Knots, Bends, and Hitches
21. The Art of Splicing
22. Blocks and Tackles
23. The Bosin's Locker
24. Weather
25. The Mariner's Compass
26. Aids to Navigation
27. The Nautical Chart
28. Dead Reckoning
29. Tides and Currents
30. Position Determination
31. Specialized Plotting Techniques
32. Signalling
33. Keeping the Ship's Log

34. Methods of Mapping the Ocean Floor
35. Features of the Ocean Floor
36. Major Ocean Currents
37. Local Currents
38. Causes of and types of Waves
39. Structure and Behavior of Waves
40. Causes of Tides
41. Types of Tides
42. How Waves Erode the Shore
43. Features Formed by Wave Erosion
44. Types of Shorelines
45. Shore Deposits
46. Deposits on the Sea Floor
47. Instruments and Methods in Physical and Geological Oceanography
48. Physical Properties of Sea Water
49. The U. S. Navy and Physical and Geological Oceanography
50. Private and University Ocean Studies
51. The Commercial Fishing Industry
52. Weather and Climate Over the Ocean
53. Boat Types and Designs According to Use
54. Selection of Types of Engine According to Design and Purpose
55. Reading Boat Blueprints
56. Boat Math
57. Tools and Use of Tools for Boat Construction
58. Basic Construction of Boat Hull
59. Installation of Motor and Controls
60. Topside Construction
61. Boat Maintenance

62. Simple Gasoline Engine Repair
63. Outboard Engine Maintenance
64. Engine Maintenance - Inboard Gasoline
65. Diesel Engine Maintenance
66. Instruments and Equipment for Chemical Oceanography
67. Solutions
68. Sampling Techniques
69. Factors Affecting Composition of Sea Water
70. Water Analysis
71. Animal Analysis
62. Plant Analysis
63. Marine Pollution
74. Resources From the Sea
75. Introduction to Marine Animal Phyla
76. Introduction to Marine Plants
77. Marine Habitats
78. Sharks
79. The Crab
80. Bony Fish
81. Introduction to Shell Fish
82. Economic Value of Marine Organisms
83. Collection and Preservation of Marine Organisms
84. Life Cycle of Commercially Important Marine Organisms
85. Dangerous Marine Organisms
86. Bioluminescence
87. Plankton and Deep Scattering Layers

PROGRAM AREA: Marine Science Occupations

CAREER CLUSTER: Fishing Industries

O.E. Code: 17:22

TEACHING UNIT NO. 1

TEACHING UNIT TITLE: Net Making

TEACHING UNIT OBJECTIVES: Upon completion of this unit, the student will be able to:

1. Identify the types of nets.
2. Identify the mesh sizes.
3. Identify the twine materials, sizes and selvage.
4. Fill a net needle.
5. Compare the uses for each type net.
6. Tie net knots.
7. Make small pieces of bunt.

RECOMMENDED PREREQUISITES: None

TEACHING UNIT LENGTH: 15 - 20 hours

EVALUATION: A combination of student-teacher evaluation to include: (1) pre-test no. 1, (2) post-test no. 1, (3) teacher observations, (4) student-teacher evaluation of constructed bunt.

INSTRUCTIONAL MATERIAL:

- VISUALS: Slides - "Types of Nets"
- BOOKS: - How To Make and Set Nets  
Netmaking
- EQUIPMENT: - Slide and 16 mm projectors, net needle, knife
- CONSUMABLES: - Rope, bunt, twine

GENERAL COMMENT: Occupational experience, exploration, and supervised research should be included in this unit. Hands-on experience repairing a commercial net and observing the different nets being used would be invaluable.

PROGRAM AREA: Marine Science Occupations

CAREER CLUSTER: Fishing Industries

O.E. CODE: 17:22

TEACHING UNIT NO. 2

TEACHING UNIT TITLE: Hanging Nets

TEACHING UNIT OBJECTIVES: Upon completion of this unit, the student will be able to:

1. Define the term "take-up".
2. Define the terms "bar" and "stretch" for measure.
3. Measure mesh and determine "take-up".
4. Tie overhand and underhand running hitches.
5. Determine number of floats and leads for a specific purpose net.
6. Hang ten yards of 1 1/2" nylon bunt, top and bottom lines, in 45 minutes.
7. Make a leaded staff.
8. Evaluate and appreciate the skills required to hang a net.

RECOMMENDED PREREQUISITES: None

TEACHING UNIT LENGTH: 30 - 40 hours

EVALUATION: A combination of student and/or teacher evaluation to include:  
(1) pre-test no. 2, (2) teacher observations, (3) student-teacher evaluation of completed net, (4) post-test no. 2

TEACHER COMPETENCY: Experience and/or working knowledge of nets.

INSTRUCTIONAL MATERIALS:

VISUALS: slides - "The Gill or Set Net" (not sold commercially)

BOOKS: - How To Make and Set Nets  
- Netmaking  
- Marlinspike Seamanship

EQUIPMENT: - slide projector, net needles, knife, 2 lag screws, 2 "A" stands, hacksaw, hammer.

CONSUMABLES: - 80' of 3/8" line, 10 yards 1 1/2" 50 mesh bunt, one spool #6 net twine, 3# of 1 oz. bead lead, 5# 1/16" sheet lead, 16' X 1 1/2" dowel, 30 3" floats.

GENERAL COMMENT: Awareness of career opportunity should be stressed. Hands-on experience for speed gain is necessary. A lecture-demonstration by a person who makes his living hanging nets would be excellent. If possible, try the net that the students made at a local body of water. This is an excellent opportunity to build school-community relations. \*\* (Clear with wildlife department.)

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PROGRAM AREA: Marine Science Occupations

CAREER CLUSTER: Fishing Industries

O.E. Code: 17.22

TEACHING UNIT NO. 7

TEACHING UNIT TITLE: Trawling

TEACHING UNIT OBJECTIVES: Upon completion of this unit, the student will be able to:

1. list fish caught commercially by trawls.
2. determine by observation the type of trawls.
3. list equipment needed for a trawler.
4. define terms relevant to trawling.
5. state present and projected economic status of trawling.

RECOMMENDED PREREQUISITES: None

TEACHING UNIT LENGTH: 35 - 40 hours

EVALUATION: A combination of the following: (1) pre-test no. 7, (2) teacher-observation, (3) post-test no. 7

TEACHER COMPETENCY: Experience and/or working knowledge of trawlers.

INSTRUCTIONAL MATERIALS:

VISUALS: 16 mm. film -"Shrimp Trawls of the Gulf Coast"

BOOKS:  
- How to Make and Set Nets  
- To Catch a Million Fish  
- Harvest of the Sea

EQUIPMENT: - 16mm. projector

CONSUMABLES: - None

GENERAL COMMENT: Student will be able to determine the feasibility of a career in trawling. A visit aboard a trawler for observation of equipment is essential. If possible, onboard observation of the trawler at work would be invaluable.

PROGRAM AREA: Marine Science Occupations

CAREER CLUSTER: Fishing Industries

O.E. Code: 17.22

TEACHING UNIT NO. 3

TEACHING UNIT TITLE: Set and Haul Nets

TEACHING UNIT OBJECTIVES: Upon completion of this unit, the student will be able to:

1. list fish caught commercially by set and haul nets.
2. determine by observation the variation of set or haul net needed to catch a specific fish.
3. list equipment (minimum) necessary to commercially fish set or haul nets.
4. state present and projected economic status of set-and-haul net fishing.

RECOMMENDED PREREQUISITES: None

TEACHING UNIT LENGTH: 30 - 35 hours

EVALUATION: A combination of the following: (1) pre-test 8, (2) teacher observation, (3) post-test

TEACHER COMPETENCY: Experience and/or working knowledge of set and haul nets.

INSTRUCTIONAL MATERIALS:

VISUALS: - actual equipment used by commercial fishermen

BOOKS: - How To Make And Set Nets  
- To Catch A Million Fish  
- Harvest of the Sea

EQUIPMENT: - None

CONSUMABLES: - None

GENERAL COMMENT: Awareness of career opportunities should be stressed. A lecture by a local net fisherman on cost of setting up minimum fishing operation would be good. If possible, visit a fishing operation in action.

PROGRAM AREA: Marine Science Occupations

Career Cluster: Small Boat Seamanship

O.E. Code 17.22

TEACHING UNIT NO. 11

TEACHING UNIT TITLE: A. Deck Seamanship:  
 Equipment and Government Regulations

TEACHING UNIT OBJECTIVES: Upon completion of this unit, the student will be able to:

1. identify motorboat classification as set forth in the Motor Boat Act of 1940 according to length. (Chapman)
2. equip boats of all classes according to legal regulations, (Chapman).
3. state what the Federal Boating Act of 1958 said about boating accidents, Ammendments to the Motor Boat Act of 1940, numbering requirements, and customs and Immigration requirements.
4. state what The Federal Boating Act of 1958 said about numbering requirements.
5. state what The Federal Boating Act of 1958 said about customs and immigration requirements.
6. state what The Federal Boating Act of 1958 said about ammdements to The Motor Boat Act of 1940.

RECOMMENDED PREREQUISITES: None

TEACHING UNIT LENGTH: 20 - 30 hours

EVALUATION: A combination of student-teacher evaluation to include: (1) Identification and class discussion of various types of equipment concerning this unit. (2) Prior to the Post-Test a careful review of both the Motor Boat Act of 1940, and The Federal Boating Act of 1958 should be held.

TEACHER COMPETENCY: Experience or working knowledge of safety equipment and The Motor Boat Act of 1940 and The Federal Boating Act of 1958.

INSTRUCTIONAL MATERIALS:

- |              |                  |  |
|--------------|------------------|--|
| VISUALS:     | Films and Slides | - Vendor - U. S. Coast Guard, transparencies   |
| BOOKS:       |                  | - <u>Piloting, Seamanship, and Boat Handling</u> , by Charles F. Chapman, 1969-71 Edition. |
| EQUIPMENT:   |                  | - Overhead projectors  |
| CONSUMABLES: |                  | - None   |

GENERAL COMMENTS: An intergral part of this unit of instruction should include learning visits or working hours with persons employed at Marinas. Each student will identify and observe all classes of boats and will get first-hand experience of inspecting required equipment aboard.

PROGRAM AREA: Marine Science Occupations

CAREER CLUSTER: Small Boat Seamanship

O.E. Code: 17.22

TEACHING UNIT NO. 12

TEACHING UNIT TITLE: A Deck Seamanship:  
Rules of the Road

TEACHING UNIT OBJECTIVES: Upon completion of this unit the student will be able to specifically define or solve the listed items and situations.

- Section A. 1. purpose of the "Rules"
- 2. burdened and priveleged vessel
- 3. rights of way
- 4. under way
- 5. signals, whistle
- Section B. 6. signals, light
- 7. meeting head-on
- 8. passing starboard to starboard
- 9. overtaking
- 10. rights of way for sailing craft
- Section C.11. rights of way for tug boats
- 12. boats backing
- 13. indicating your course
- 14. boats coming out of slip
- 15. where inland and international rules differ

RECOMMENDED PREREQUISITES: None

TEACHING UNIT LENGTH: 40 hours

EVALUATION: A combination of student-teacher evaluation to include: (1) Pre-test # 12 (2) post-test # 12, (3) student (self) evaluation of situations (Over-head projector transparencies) through 4, (4) Student-teacher and discussions concerning correct situations solutions.

TEACHER COMPETENCY: An extensive working knowledge of seamanship and boat handling experienced in the waters to be utilized for demonstration purposes.

INSTRUCTIONAL MATERIALS:

- VISUALS: - Transparencies
- BOOKS: - Situations 1 through 4, Piloting, Seamanship and Small Boat Handling, Chapman, Charles F., 1969-70. Pages 28 to 78d.
- EQUIPMENT: - Overhead projector, two class A motorboats.
- CONSUMABLES: - None

GENERAL COMMENTS: Provided transparencies should be extensively utilized to ensure that all situations are completely understood and correctly scaled.

PROGRAM AREA: Marine Science Occupations

CAREER CLUSTER: Small Boat Seamanship

O.E. Code: 17.22

TEACHING UNIT NO. 15

TEACHING UNIT TITLE: A. Deck Seamanship: 15. The Captain, His Duties and Responsibilities

TEACHING UNIT OBJECTIVES: Upon completion of this unit, the student will be able to:

1. tell what leadership aboard consists of.
2. tell what discipline aboard consists of.
3. list and define the qualities desirable in a captain.
4. describe the primary duties and responsibilities of the captain.

RECOMMENDED PREREQUISITES: None

TEACHING UNIT LENGTH: 10 - 14 hours

EVALUATION: A combination of student-teacher evaluating to include: (1) Pre-test No. 15, (2) post test No. 15, (3) Student Self-Evaluation of constructed designs, (4) Student-Teacher classroom discussion, (5) Teacher observation.

TEACHER COMPETENCY: Experience or a working knowledge of a captain's duties and responsibilities.

INSTRUCTIONAL MATERIALS:

- BOOKS: - Piloting, Seamanship, and Small Boat Handling,  
By Charles Chapman.
- EQUIPMENT: - Overhead projector
- VISUALS: - Transparency on the Skipper's responsibilities.

GENERAL COMMENT: A Skipper for a guest speaker would be a great asset to the learning activities.

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PROGRAM AREA: Marine Science Occupations

CAREER CLUSTER: Small Boat Seamanship

O.E. Code: 17.22

TEACHING UNIT NO. 16

TEACHING UNIT TITLE: Boat Handling

TEACHING UNIT OBJECTIVES: Upon completion of this unit, the student will be able to:

1. understand why boats of all types react differently under like situations.
2. use wind and current to his advantage when maneuvering his boat.
3. as helmsman, put to good use, judgement he has developed from handling his boat.
4. explain the effect that the propeller and rudder has on the boat.
5. use proper lines when docking (spring how and stern).
6. appreciate the twin screw boat as opposed the single screw.
7. operate his boat in a safe, smart, effective and economical way.

RECOMMENDED PREREQUISITES: Student must have completed units 1, 2, and 4 of seamanship.

TEACHING UNIT LENGTH: 60 - 70 hours

EVALUATION: A combination of student-teacher evaluation to include: (1) Pre-test No. 16, (2) Post-test No. 16, (3) Student and teacher evaluation following performance Test No.

TEACHER COMPETENCY: Small boat operators license, issued by USCG or their designated port authority.

INSTRUCTIONAL MATERIALS:

- VISUALS: Films - "Small Boat Handling:, U.S.C.G."
- BOOKS: - Piloting, Seamanship and Small Boat Handling, (Chapman)
- EQUIPMENT: - One small work boat, class III or its equivalent.

GENERAL COMMENTS: This unit may be taught from textbook and films, scaled models and transparencies made up in the classroom but to be an effective and reliable boat handler practical experience aboard the boat is a must. This will make the performance test possible and more meaningful.

THE DEVELOPMENT AND EVALUATION OF A MODEL DELIVERY SYSTEM  
FOR MARINE SCIENCE OCCUPATIONS AT THE SECONDARY  
LEVEL OF EDUCATION

North Carolina State Board of Education  
Department of Public Instruction  
Division of Occupational Education  
Raleigh

November 29, 1974

DEPARTMENT OF PUBLIC INSTRUCTION



STATE OF NORTH CAROLINA      RALEIGH  
November 22, 1974

Dr. Glenn C. Boerrigter, Chief  
Vocational Educational Research Program  
Division of Vocational Education Research  
7th and D Streets, S. W.  
Regional Office Building # 3  
Washington, D. C. 20202

Dr. Boerrigter:

The attached application for Vocational Education Research Program funds (Federal Domestic Assistance Catalogue Number 13.498) for FY 1975 under Section 131(a) of the Vocational Education Act of 1963, as amended; is being transmitted today in order to meet the November 29, 1974 deadline as published in the November 11, 1974 issue of the Federal Register. However, State Board approval for the transmittal of this application cannot be given until its regular monthly meeting in December.

The next meeting of the North Carolina State Board of Education is scheduled for Thursday, December 5, 1974. The approval of the transmittal of this application will be placed on the agenda for action at that meeting. The State Board will notify you as soon as possible thereafter regarding whether or not approval has been given.

Sincerely yours,

A handwritten signature in cursive script that reads "Charles J. Law, Jr.".

Charles J. Law, Jr., Director  
Division of Occupational Education

A handwritten signature in cursive script that reads "A. Craig Phillips".

A. Craig Phillips, Secretary  
and Chief Executive Officer  
North Carolina State Board of Education

DEPARTMENT OF PUBLIC INSTRUCTION



STATE OF NORTH CAROLINA

RALEIGH

November 29, 1974

Dr. Glenn C. Boerringer, Chief  
Research Branch  
Division of Research & Demonstration  
Department of Health, Education,  
and Welfare  
U. S. Office of Education  
Washington, D.C. 20202

Dear Dr. Boerringer:

In line with recent planning in North Carolina concerning the establishment of training for our students in Marine Science Occupations, the Division of Occupational Education is pleased to endorse this proposal.

I personally feel that this is a much needed area for inclusion in our occupational training. To my knowledge, it is an area which, from all indications, is growing and will continue to have tremendous impact on our economy.

It is hoped that the Commissioner will agree, and assist us (and others, through the diffusion of the project) in establishing and evaluating this proposed model.

Sincerely,

A handwritten signature in cursive script that reads "Charles J. Law, Jr.".

Charles J. Law, Jr., Director  
Division of Occupational Education

CJL: dp

## RELATIONSHIP OF PROJECT TO OTHER EFFORTS

This project will be one that will bring to fruition other specifically related efforts by the North Carolina State Department of Public Instruction. It will afford the provision of much needed training in marine occupations to all the people of eastern North Carolina -- not just one small geographical area. The project will disseminate, demonstrate, evaluate, and extend the existing marine occupational offerings in North Carolina from two special programs to total, area-wide availability.

This proposal also represents the result of prior planning efforts by the State Department of Public Instruction for the establishment, operation, and evaluation of a model for training in marine occupations. Such planning was initiated during 1974, and it is the intention of the North Carolina State Department of Public Instruction to continue offering training in marine occupations (after the expiration of this proposed project) with regular occupational monies.

## IDENTIFICATION AND DESCRIPTION OF PROJECT TARGET AREA

The site of this project is the 28 extreme eastern counties of North Carolina. This area is bound on the north by the southeastern area of the Commonwealth of Virginia, on the east by the Atlantic Ocean, on the south by the northeastern coastal plains area of South Carolina, and on the west by the piedmont area of North Carolina. Prominent north-south highways in this area are I 95, US 301, US 258, US 13, and US 17. Prominent east-west highways are US 158, US 64, and US 264.

This 28-county area comprises four multi-county planning regions (O, P, Q, and R) established by a gubernatorial executive order in 1970.

This area of North Carolina is characterized by a predominately rural population of relatively low density and a slightly decreasing population. With a rural population of around 67% of the area total, the population density of the four planning regions ranges from 155.7 persons per square mile to 29.5. From 1960 to 1970, there was a population decrease in the northeastern sector of approximately 2.6%. The 1974 projections indicate, however, that regions O and P will experience slight increases in population.

The economy of the area is primarily agricultural with much employment in the production of such crops as tobacco, corn, soybeans, timber, pulpwood, peanuts, cotton, and potatoes along with the allied industries which process these products as well as provide products and services to the crop producers. The average per capita income in the 28 counties ranges from a low of \$1,668 to a high of \$3,210. Unemployment in the 28 counties ranges from a low of 3.0% to a high of 11.0%.

(The next eleven pages consist of maps and other information concerning the eastern seaboard of North Carolina.)

## 1. Rationale and Problem Statement:

The Division of Occupational Education of the North Carolina State Department of Public Instruction is pleased to submit this proposal in response to criterion E - Curriculum, Demonstration, and Installation - as determined by the U. S. Commissioner of Education. It is the intent of this proposal that the resultant project will improve and extend existing vocational education offerings at the national, regional, and interstate levels for the priorities in criterion E.

The basic concept behind this proposal is based on the need for an education program at the secondary level directed toward preparing young persons for future employment in the marine occupations field. Of all the areas offered in vocational training in North Carolina (and nationwide, as well), this is the one occupational cluster which is least available to persons desiring formal training.

It is interesting, for instance, to note that it is possible for any young person wishing to enter an occupation within the various phases of agriculture to do so in North Carolina through receiving preparation and training from the middle grades of early education experiences up through graduate studies at a number of universities. Conversely, if the same young person wished to enter employment within the marine occupations, that person could obtain but limited training for this field at any university in North Carolina; and only a few of our community colleges and technical institutes offer programs that would be of very much help. The problem is further compounded by the fact that training for marine occupations at the secondary level is practically nonexistent.

All of this becomes particularly frustrating when one realizes that North Carolina is blessed with an abundance of marine resources in that it

has more than 1,000 miles of tidal shore land, 15,000 square miles of continental shelf, and 2,500 square miles of bays and sounds. In fact, there are only three of the 48 contiguous states that have more than North Carolina -- Texas, Florida and California.

Although biological cycles and seasonal effects occur (i.e., peak years and off years), the growth of the marine industry in North Carolina is most evident. In 25 coastal counties, coastal waters provide a major source of income. Seafood taken from these waters currently has a dockside value of approximately 13 million dollars and a total value after processing of about 39 million dollars. In Carteret County, North Carolina, alone, the dockside value of seafood in 1970 was \$3,564,000 -- 87 percent of the total agricultural gross income of \$4,079,000.

In 1972, the United States Department of Commerce reported a total of 81 processing plants with a peak employment of 2,068, and 107 wholesale plants with a peak employment of 436. Further, a 1973 survey indicated that the creation of seven new seafood processing plants (valued at 1.5 million dollars) would create 105 new jobs, and ten major plant expansions (valued at \$725,000) would create a minimum of 55 new jobs.

Also, a large on-water industry exists in North Carolina and supports the shore-based processing and wholesaling plants. North Carolina averages about 16,000 commercial licensed fishermen yearly and 4,861 fishermen on vessels. Excluding pleasure craft, there are 35 registered menhaden boats, 1,593 vessels registered in the 18-26 foot range, and 953 vessels exceeding 26 feet in length. These data reflect that through a combination of the onshore and offshore marine industries, many meaningful occupations are available to North Carolinians, within the broad cluster of marine science occupations.

Succinctly put, the problem addressed in this proposal is the clear and emergent need for the development, implementation and evaluation of a model for providing training in the marine science occupations at the secondary level of public education in North Carolina. The need for such a model providing skills training in marine science occupations is clearly demonstrated in one area (fisheries) by data from the North Carolina Employment Security Commission which indicates that most of fisheries occupations employment in North Carolina is concentrated primarily in the laborer category (75.4 percent) and hence, suggests that absence of training opportunities is severely limiting occupational upward mobility. Data from the Employment Security Commission are summarized in the following table:

PERCENT EMPLOYMENT DISTRIBUTION IN FISHERIES OCCUPATIONS  
BY LEVEL AND TYPE OF EMPLOYMENT

<u>Level of Employment</u>	<u>Privately Employed</u>	<u>Self Employed</u>	<u>Government Employed</u>	<u>Total</u>
Professional and Technical	.4%	.0%	1.8%	2.2%
Managers, Officials, Proprietors	4.3	3.0	.3	7.6
Sales	1.4	.7	.0	2.1
Clerical	1.9	.4	.0	2.3
Craftsmen, Foremen	2.0	.3	.3	2.6
Operatives	4.9	.7	.3	5.9
Service	1.0	.4	.5	1.9
Laborers	22.6	52.5	.3	75.4

Unfortunately, the problem of developing, implementing and evaluating broad spectrum marine occupations curricula cannot be solved without intensified study and full commitment of all parties involved. For this reason, the North Carolina State Department of Public Instruction would develop this project using specialists from all sources that can be brought together to design the type of program that best serves the needs of the identified population. Upon completion, this project would provide the structure necessary to achieve the ability to flexibly design curricula with a proven adaptability factor necessary to meet transportability requirements.

In summation, it is the overall objective of this proposal to develop, field test, and evaluate a comprehensive education model for those desirous of entering marine occupations; to provide the information, organizational requirements, and administrative arrangements necessary to initiate and operate demonstration activities in order that the project will remain in existence when outside sources of funds are no longer available; and, through the generation of this model, to diffuse what is required to enable other user groups to understand the nature and effectiveness of the demonstration activities.

Specifically, the objectives of this project are:

- A. The development, field testing, and evaluation of skills training curricula within the marine occupations cluster for grades 10, 11 and 12.
- B. The establishment and coordination of three demonstration and dissemination centers. These centers will be used as inservice training sites, demonstration sites, and curriculum pilot test centers.

- C. The establishment and evaluation of a resources clearinghouse. Curriculum materials, program descriptions, and other related information will be located, modified, adapted, codified and distributed to local education units and other parties having interest in programs preparing for entry into marine science occupations.
- D. The dissemination of a model containing all information needed regarding successful administrative techniques and other information necessary for replicating the proposed model.

The following are perceived as necessary to effectively deal with this problem, and are presented as major operational components in the project's conduct.

- Local surveys to determine needs
- Meeting with industry people
- Meeting with school representatives
- Joint industry and school representatives meetings
- Fact finding tour
- Involvement of USOE advisors
- Analysis of present programs
  - quality
  - teacher training
  - equipment
  - materials
  - curriculum
- Curriculum development

└ A major task which this proposal addresses is the creation of new curricula and transforming existing materials in one or more of the following ways:

restructuring old, dated curricula;

integrating occupational education concepts into existing curricula;  
developing newer methodologies and revising outdated ones in  
existing curricula (individualized approaches, extensive media  
usage, etc.);  
the development of curriculum evaluation guidelines; and fitting  
existing curricula into a well designed procedure for revision and  
updating/

- Program visitation(s)
- Information dissemination/public involvement
  - state and local education leaders
  - county commissioners
  - regional education officers
  - town councils in cities where programs are located
  - state legislative involvement
  - representatives in Washington (Congress)
- Establishment of local advisory committees
- Establishment of State advisory committee
- Seminars, conferences
- Demonstration inservice site  
intern program
- A formative and summative evaluation system

The Division of Occupational Education is firmly committed to this proposal in that the development, implementation, and evaluation of the model proposed herein would enable North Carolina and others to open the door to a systematic study leading to entrance into marine science occupations and initiate and expand the supply of individuals with the breadth of training necessary to give solution to this problem locally and elsewhere.

## II. General Model Characteristics:

The Division of Occupational Education of the North Carolina State Department of Public Instruction is convinced that the magnitude of the educational problem identified herein can most effectively be approached by a coordinated effort of teacher educators, State Department personnel, local education personnel, and the business and industrial community. This working consortium, engaged seriously and professionally in educational development, provides the combination of ideas and operational know-how for positive educational growth and development.

Thus, this model which proposes to develop, implement, and evaluate a curricular design for marine occupations is based on the premises that:

1. Productive, meaningful learning is not necessarily restricted to formal learning situations but should involve the public sector as well.
2. Students learn best when they can see a practical interface between the curriculum content and employee competency requirements, and
3. A resource base involving multiple community resources is superior to the isolation and fragmentation of any singular approach. The proposed model will embody the following features:

### A. Generalizability and transportability

The model developed will be applicable beyond the confines of the State of North Carolina. In order to achieve maximum economic efficiency, the model will contain enough latitude so that other parties can adapt it to their needs. Transportability will be possible through the provision of adequate

documentation of the development, implementation, and evaluation processes of the model. Final products of the project will be appropriately packaged for use by other interested parties.

B. Participatory evolutionary development

It is clearly felt that not all the expertise in developing an instructional program such as proposed herein resides with the North Carolina State Department of Public Instruction. The model will be devised to meet the needs of practicing educators and local education agencies and as such will involve those educators in the development of curricular content for this project. With the involvement of business and industry, the curricula will evolve on a systematic basis of development -- tryout -- revision. Heavy involvement of the advisory committees is required and will be incorporated into the formative and summative evaluation plan.

C. Resource base functions

As stated, business, industry, and the practicing education community will complement and supplement the resources of the State Department in the development and implementation of this model. It is envisioned that local education agencies will serve through the three development centers for students and that business and industry will provide co-op laboratories as well as actual input to the instructional program development. Recent research in North Carolina has indicated that the use of involved advisory committees from the business and industrial sector is a viable and highly effective method for providing

leadership and guidance to educational practitioners.

D. Conformity to the concept of competency based education

The curricula designed under this project will embody all the concepts of the area in which it purports to train students.

The resulting curricula will definitely be a "do as I do" rather than a "do as I say" situation. Where possible, the

- instruction will be open entry and open exit, self-paced, and performance based.

E. Flexible modules

Regardless of the constraints of some block scheduling at the secondary level, instruction will, as required, extend beyond the school campus.

F. Demonstrated mastery progression

It is envisioned that, in accordance with the overall philosophy of the model, a key feature involving student progression will be the concept of demonstrated mastery. Demonstrated mastery will allow a student to bypass any portion of the instructional program in which the student can demonstrate a prescribed level of competency. This feature will apply at any point during the instructional sequence. Figure 1 (see next page) demonstrates this concept in schematic form.

STANDING COMMITTEES

Program Specialty Area: Marine Science Occupations

	<u>NAME</u>	<u>ADMINISTRATIVE UNIT</u>
State Program Chairman:	<u>Mr. Owen Lupton</u>	<u>Pamlico Co.</u>
Co -Chairman:	<u>Mr. Chester Cooper</u>	<u>Tyrrell Co.</u>
Recorder:	<u>Mr. William E. Spender</u>	<u>Onslow Co.</u>

WORKING COMMITTEES:

Equipment

1. Mr. Rozell Hewett Chairman
2. Mr. J. P. Miller
3. Mr. Joseph Huddleston

Curriculum

1. Mr. Owen Lupton Chairman
2. Mr. Brutus Begley
3. \_\_\_\_\_

Physical Facilities

1. Mr. Ivey Lewis Chairman
2. Mr. William Kenneth Brown
3. \_\_\_\_\_

Textbook

1. Mr. William Spender Chairman
2. Mr. Chester Cooper
3. \_\_\_\_\_

V.I.C.A. and State Fair

1. Joshua K. Wood Chairman
2. \_\_\_\_\_
3. \_\_\_\_\_

DEPARTMENT OF PUBLIC INSTRUCTION



STATE OF NORTH CAROLINA

RALEIGH

August 19, 1975

MEMORANDUM

TO: Marine Science Occupations Teachers

FROM: Adam J. Thompson, Jr. - State Consultant  
Marine Science Occupations Programs  
Trade and Industrial Education

I sincerely hope your plans are well under way for a progressive and eventful school year.

I would like to share the following information and literature with you and am requesting you to respond to some of it.

1. NOAA Motion Picture Films - Enclosed is a copy of the NOAA Motion Picture films available to you. I ordered enough for each of you to have a copy. I encourage you to use these films if you feel they would be helpful to your program.
2. Roster of MSO Teachers - A list of the MSO teachers is enclosed. Please check it for errors and return if I have the wrong information or if it is incomplete.
3. MSO Standing Committees - Enclosed is a copy of our Program Area (MSO) Standing Committees. I took the prerogative of making appointments in all cases, and sincerely hope that these will be agreeable with you. If you are a committee chairman, you should work closely with your committee members in an effort to get our program area on a firm foundation state-wide. Many other states are looking at our MSO Programs and are requesting guidance and direction from us concerning efforts being made in their states. Just this week the State Education Department of the State of Rhode Island called and wanted information on all we were doing in this area. Other states are Massachusetts, Maine and Maryland.
4. Curriculum Materials - Our office is presently involved in typing the mats for the curriculum materials which have been developed. I will forward copies just as soon as these are completed.
5. MSO Textbook - Efforts are being made to try and get a textbook for MSO Programs. The situation does not look too good for this school year concerning getting one adopted for the textbook list. I recommend that you request appropriate funds from your Local Director or Principal to purchase enough copies of Chapman's book or any other books you feel appropriate for the students in your program. Hopefully, by next year, things will look better for a textbook adoption for our programs.

6. VICA - If you haven't already done so, you should organize your chapter of VICA right away. VICA (Vocational Industrial Clubs of America) is our youth organization in Trade and Industrial Education and every student enrolled in your program should be a member. You and your students can get statewide and National recognition by participating in activities of VICA. For more information on VICA write to Mr. Phil Rollain, State VICA Director (his address is the same as mine given below).

I look forward to hearing from each of you concerning activities in your program, as well as, the items mentioned above.

My address is:

Adam J. Thompson, Jr. - State Consultant  
Marine Science Occupations Program  
Trade and Industrial Education  
Room 586, Education Building  
Raleigh, North Carolina 27611

Enclosures

June, 1975

PARTICIPANTS OF MARINE SCIENCE OCCUPATIONS CURRICULUM DEVELOPMENT WORKSHOP

William E. Baugham  
P. O. Box 861  
Morehead City, N. C. 28557

John P. Allen, Jr.  
Route 1, Box 276 - A1  
Leland, N. C. 28451

Brutus Begley  
Southport  
North Carolina 28461

James E. Carter, III  
234 N. Crestwood Street  
Wilmington, N. C. 28400

Chester M. Cooper  
Route 2, Box 253 A  
Columbia, N. C. 27925

James Fawcett  
322 Kingston Road  
Wilmington, N. C. 28400

Albert Jay Foxworth  
4528 Patrick Avenue  
Wilmington, N. C. 28401

Rozell Hewett  
Route 2, Box 93  
Shallotte, N. C. 28459

Joe Huddleston  
317 Bordeaux Street  
Jacksonville, N. C. 28540

Hubert S. Hufham, Jr.  
601 N. Channel Drive  
Wrightsville Beach, N. C. 28480

Candis O. Lassiter  
P. O. Box 114  
Moyock, N. C. 27958

Ivey William Lewis  
Route 1  
Hampstead, N. C. 28443

Owen Lupton, Jr.  
Route 1, Box 4  
Oriental, N. C. 28571

Oscar B. Maxwell  
P. O. Box 275  
Swansboro, N. C. 28584

William E. Spender  
206 Bedford Road East  
Wilmington, N. C. 28400

Laura R. Taylor  
210 Mansfield Parkway  
Morehead City, N. C. 28557

James Michael Williams  
White Springs Mobil Homes  
Box 18  
Southport, N. C. 28461

Joshua K. Wood  
Route 2, Box 720  
Chocowinity, N. C. 27817

Dana Eldridge, Project Director  
Marine Science Vocations Programs  
Cape Cod Technical High School  
Harwich, Mass. 02645

Adam J. Thompson, Jr., Program Consultant  
Marine Science Occupations  
Trade and Industrial Education  
Division of Occupational Education  
586 Education Building  
Raleigh, N. C. 27611

Lewis F. Dunn, Executive Director  
N. C. Fisheries Association, Inc.  
P. O. Box 718  
New Bern, N. C. 28560

## PLAN FOR SEMI-HANDS ON TEACHING

### Mock-up & Simulators

**I - Project:** To have a series of portable mock-up and simulator examples of equipment and situations which can be used in "indoor" instructions in preparation for "outdoor" experience.

**II - Plan:** To transport these teaching aids from one school unit to the other - rotational basis - for various cluster units.  
Example: School A would have pilot house, School B engine room. At the end of prescribed period of time, pilot house would be moved to School C, engine room to School A, Deck model to School B.

**III - Implementation:**

1. Each school unit would participate in designing and building a mock-up.
2. Outside (industry) resources would be involved.
3. Major suppliers would be solicited on a high-level basis for equipment and supplies to be used in mock-ups.
4. Technical Institutes, Adult Classes, etc. could be involved in planning and building and in using.

**IV - Examples:**

1. Pilot house
2. Deck with winch and other gear
3. Engine room
4. Cordage
5. Chart room
6. Records Center - log books, documentation, etc.
7. Power train - transmission
  - shaft
  - stuffing box
  - wheel )prop)
8. Galley
9. Nets and harness, etc.
10. Electronic equipment
11. Bo's'n's locker

**V - Other Considerations:**

1. Truck to haul the mock-up
2. Someone to drive truck
3. Use by other groups
  - A. "Town-hall" meetings
  - B. Gear demonstrations
  - C. Technical Institutes, adult classes
4. Properly maintained
5. Adequate accommodations in schools
  - A. Space
  - B. Power
  - C. Ventilation

## MATERIALS FOR FISHERIES AND MARINE VOCATIONS FOR COUTHULE WORK

### Educational District 11 Marine Vocations

#### Secondary Program Related to Marine Vocations

1. Seafood Industries - Pamlico High School
2. Pender County - developing program
3. Onslow County
  - Dixon High School - Marine Vocations
  - Swansboro High School - Marine Vocations
4. Oceanography - New Hanover Schools
5. Marine Vocations - South Brunswick High School

#### Program Areas of Instruction

##### Oceanography Program Areas

1. Physical Oceanography
2. Chemical and Geological Oceanography
3. Marine Ecology
4. Marine Biology

#### Program Areas of Instruction

##### Seafood Industries

1. Background of the fishing industry
2. Job opportunities and potentials within the seafood industry
3. Environmental control
  - (a) Conservation
  - (b) Laws and regulations related to the seafood industry and general conservation
  - (c) Why conservation is enforced
4. Small boat handling relating to the seafood industry
5. Navigation - dead reckoning and instrumentation
6. Net making - shrimp trawls, fish trawls, crab trawls, set nets, hand nets, pound nets, crab-pot making, oyster dredging
7. Preventative maintenance
8. Wire splicing and rope splicing
9. Fishing processes
  - (a) Seafood processing
  - (b) Packaging
  - (c) Marketing

## GEOGRAPHIC AREAS

1. Pamlico High School, Bayboro, North Carolina

Classroom and boat facilities on Bay River. Bay River provides an outlet to the Pamlico Sound and Atlantic Ocean. This is about mid-coastal North Carolina.

2. The Onslow County programs are located at Swansboro High School, Swansboro, North Carolina.

No boat is available in this program. Dock facilities are available or could be located just off Bogue Inlet that would afford an outlet to the Atlantic.

The Dixon High School, Dixon, North Carolina

Dixon is located at junction of U. S. 17 and N. C. 210. If a boat were available in this program, docking facilities could be available on New River near Sueds Ferry at New River Inlet to the Atlantic and the Intracoastal Waterway.

3. The Pender County program is planned for Topsail High School, Hampstead, North Carolina.

Docking and water fronting at Topsail Island.

4. The New Hanover County High School oceanography location of boat and docking facilities - Wrightsville Beach.

Outlets at Masonboro Inlet or Mason Inlet.

5. The Brunswick County Marine Vocations program is located at South Brunswick High School.

This program needs revamping and redirecting with boating facilities, etc.

DEPARTMENT OF PUBLIC INSTRUCTION



STATE OF NORTH CAROLINA

RALEIGH

August 2, 1972

MEMORANDUM

T&I 73-1

TO: Selected Superintendents of Schools

FROM: Adam J. Thompson, Jr., Consultant  
Trade and Industrial Education

SUBJECT: Marine Science Occupations Programs

On Friday, July 21, 1972, I had the opportunity to meet with members of the North Carolina Commercial Fisheries Study Commission. (A list of this commission's members is enclosed.) At that meeting, I reported on the present status of Marine Science Occupations courses now being offered in our Public School system.

The commission members were concerned about the lack of Marine Occupations Programs being offered in the coastal Administrative Units in our state. The chairman requested that I correspond with you concerning this and encourage each of you to consider the possible need for these programs in your unit. As you know, the seafood industry along our coast involves many dollars and people.

The Commission Chairman, Mr. Clayton Fulcher, Jr., a commercial fisherman himself, stated that the industry was in need of young people trained in the areas of Marine Science Occupations. He stated that this seems especially true in the northeastern section of our state.

May I encourage each of you to consider this stated need as you become involved in your Tri-bi-annual Planning efforts.

Please let me hear from you concerning plans you may have for up-grading your existing Marine Science Occupations Programs and also any new programs in this area which you are considering for the future.

The Commission Chairman has ask that I report this information to the commission members as soon as possible.

If I can be of any service, please let me know.

Enclosure

cc: Dr. Charles J. Law, Jr., Director  
Division of Occupational Education

Mr. M. S. Sanders, Area Director  
Occupational Education, District II

Mr. John L. Hassell, Area Director  
Occupational Education, District I

Mr. Claude F. Eldridge, Chief Consultant  
Trade and Industrial Education

NORTH CAROLINA COMMERCIAL FISHERIES  
STUDY COMMISSION

Oath: Not Required

Resolution 103, 1971 SL

Membership: Chairman and 10 members

3 Representatives appointed by Speaker of the House

3 Senators appointed by Lt. Governor

5 appointed by Governor

Term: Until report is filed with Governor on or before December 1, 1973.

Chairman: Appointed by Governor

<u>Name</u>	<u>Address</u>	<u>Appt.</u>	<u>Reps.</u>
J. Harold Talton	<del>First Citizens Bank</del> Box 670 New Bern 28560	3/8/72	Finance
H. S. Gibbs, Jr.	Chalk & Gibbs Realtors 1006 Arendell Street Morehead City 28557	3/8/72	Marine Ins.
Linnie D. Perry II	Perry-Wynns Fish Co., Inc. Box 85 Colerain 27924	3/8/72	Pres., N. C. Fisheri Assoc.
Charles L. Broome	Assoc. Dean & Dir. of Graduate Studies, East Carolina Univ. School of Business, Post Office Box 2767 Greenville 27834	3/8/72	Market- ing
Clayton Fulcher, Jr. <u>Chairman</u>	Post Office Box III Atlantic 28511	3/8/72	Citizen

SPEAKER OF THE HOUSE APPOINTEES:

Ronald E. Mason	Beaufort
Joe L. Bright	Vanceboro
Howard A. Penton, Jr.	Wilmington

LT. GOVERNOR'S APPOINTEES:

George M. Wood	Camden
S. Bunn Frink	Shalotte
Norris C. Reed, Jr.	New Bern





North Carolina General Assembly  
Senate Chamber  
State Legislative Building  
Raleigh 27611

October 30, 1975

SENATOR BOB L. BARKER  
14TH DISTRICT  
HOME ADDRESS: 14116 WYNDFIELD CIRCLE  
RALEIGH, N. C. 27609

COMMITTEES:  
INSURANCE, CHAIRMAN  
AGRICULTURE  
BANKING  
FINANCE  
RULES AND OPERATIONS OF  
THE SENATE  
STATE GOVERNMENT

Dr. Ben E. Fountain, Jr.  
President  
N. C. Department of Community Colleges  
Education Building  
Raleigh, North Carolina 27611

Dear Dr. Fountain:

By ratification of House Bill 296 from the 1975 General Assembly (S.L. 1975, c.851; copy enclosed) the Legislative Research Commission was directed to study a state fisheries training vessel program and to "examine the motor pool approach to State-owned vessels where all departments would have access to some use of vessels now under exclusive departmental control." I have been appointed to the Research Commission and given the responsibility for planning the training vessel study.

I am told that the main thrust of the efforts supporting the study was a desire to find training vessel facilities for existing and planned expansion programs of fisheries training through high school occupational education under the Department of Public Instruction. In order to begin planning for the study I would like to have some preliminary written comments from the Department of Community Colleges on the possibility, desirability, appropriateness, etc., of using community college vessels in Department of Public Instruction occupational education programs.

Sincerely,

Bob L. Barker

BLB:hc

Encl.



File

DEPARTMENT OF  
COMMUNITY COLLEGES  
NORTH CAROLINA STATE BOARD OF EDUCATION  
RALEIGH 27611

BEN E. FOUNTAIN, JR.  
STATE PRESIDENT

November 5, 1975

919-829-7051

Dear Senator Barker:

This is to respond to your letter asking for "...some preliminary written comments from the Department of Community Colleges on the possibility, desirability, appropriateness, etc. of using community college vessels in Department of Public Instruction occupational education programs."

First, I would observe that I was quite puzzled at the inclusion of a review of marine vessels in House Bill 296 from the 1975 General Assembly (S.L. 1975, c.851). Upon checking with President McLeod of Cape Fear Technical Institute last summer, I learned that the origin of the study was probably in the public school system. This too was surprising for the following reasons:

1. The public school and community college systems as you know are governed by the State Board of Education which can, should and does work out occasional problems of cooperation between the two programs.
2. To my knowledge the question of public school use of the marine vessels has never been raised in the State Board of Education. I feel certain that if such a question had arisen, the State Board of Education would have moved promptly to resolve it in the best interests of education and efficient use of the vessels. There is ample precedent for cooperative use of facilities and personnel by the two systems.
3. I cannot recall a Department of Public Instruction or public school request to me for use of the vessels in my nearly five years in Raleigh with the Department of Community Colleges.
4. I am aware that Cape Fear Technical Institute is quite willing to make the vessels available to other agencies in the interest of advancing education and research and to help Cape Fear Tech bear the high costs of operation, maintenance, and equipment.

The foregoing does not necessarily mean that a problem of Department of Public Instruction/Department of Community Colleges joint use of marine vessels does not exist. It does mean that if there is such a problem, obviously it has not been brought to me or to the State Board of Education for resolution.

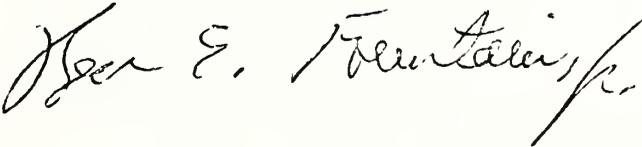
Senator Bob L. Barker  
November 3, 1975  
Page Two

To respond directly to your query, my first thought is that educational use of marine vessels of the Community College System by the public schools is desirable and possible. The usual problems of cost sharing, scheduling and so on surely can be worked out with Department of Public Instruction as with other agencies. The only major problem I can foresee is that of involvement of minors in a somewhat hazardous training program, especially if sea going learning experiences are contemplated for the public school children. Surely even this can be resolved.

By a copy of this letter I am requesting that President McLeod of Cape Fear Technical Institute also respond to your request for some preliminary comments.

We shall of course be happy to assist you in your study in any way possible. We share your goal of full and efficient use of State Board of Education marine vessels in North Carolina vocational education.

Sincerely,



The Honorable Bob L. Barker  
The State Senate  
State Legislative Building  
Raleigh, NC 27611

bh  
cc: President M. J. McLeod  
Dr. W. Dallas Herring  
Mr. R. Barton Hayes

# CAPE FEAR TECHNICAL INSTITUTE

TELEPHONE 763-9876 • 411 NORTH FRONT STREET • WILMINGTON, N. C. 28401

November 10, 1975

M. J. MCLEOD  
PRESIDENT

BOARD  
OF  
TRUSTEES

WILLIAM T. EMMART  
CHAIRMAN

R. L. BURNETT  
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W. MERCER ROWE

MRS. CONRAD B. SCHWARZ

FREDERICK WILLETTS, JR.

The Honorable Bob L. Barker  
The State Senate  
State Legislative Building  
Raleigh, NC 27611

Dear Senator Barker:

Dr. Ben E. Fountain, President, NC Department of Community Colleges, has asked me to respond to your inquiry regarding the possibility, desirability, and appropriateness of high school fisheries training programs using community college vessels.

At Cape Fear Technical Institute, we have three vessels that might be of interest. Our largest vessel is the 185' ADVANCE II, a deep water oceanographic training vessel that does have limited fishing capabilities. We have, in the past, carried several marine science groups from NC high schools on the ADVANCE II. In fact, we have honored every request that I know of. The operation of the ADVANCE II is a relatively expensive project, and each year we must find up to approximately \$200,000 in contracts or grants over and above State funding in order to give our 200 plus Marine Technology students the sea training they need. Fortunately, working with research scientists in the public or private sector is ideal training, so contracts or grants work to an advantage. We already have an active Marine Working Consortium involving units of the University System and Cape Fear Tech to provide training, educational, and research opportunities through sharing of abilities, facilities, vessels, and equipment.

We also have a small vessel, the LIMULUS, for in-shore oceanographic training that we will use in our program as soon as we complete all US Coast Guard requirements.

The vessel probably of most interest would be a 60' trawler, the NORTH STAR. We have just recently acquired the NORTH STAR through trade for a surplus vessel we no longer could use. We plan to use the NORTH STAR in the commercial fishing aspects of the Marine Tech program and to conduct a separate Commercial Fishing program for high school drop-outs. We would be most happy for any high school group to share the use of this vessel or any other. In fact, we are already planning for the use of the NORTH STAR in our local high school fishing program.

The Honorable Bob L. Barker  
Page Two  
November 10, 1975

We do have one problem that effects our program and not the high schools. Because our students pay the normal tuition or fees of the Community College System, the Coast Guard must classify them as passengers. This classification calls for meeting of all Coast Guard regulations, CG inspection, officers with USCG tickets to carry more than six passengers, etc. This does add some cost. As public school students pay no fees, the vessels used in their programs are free of most all USCG regulations. They can operate as loosely as most fishermen.

We would like to invite you and any of your committee who are able to come and visit our program, and see how we operate. The ADVANCE II will be out and in from training cruises off the coast, and I am enclosing a tentative schedule. The schedule is, of course, dependent on weather and possible cost-sharing projects, so it might be well to call in advance. The NORTH STAR and the LIMULUS will be at our dock through December and I expect it will take that long to comply with US Coast Guard regulations. All of our vessels were received from US Surplus Property except for the NORTH STAR. We traded a surplus vessel for the NORTH STAR.

Please feel free to contact my office if we can be of any help at all in your study.

Yours sincerely,



M. J. McLeod  
President

MJMc/kp

cc Dr. Ben E. Fountain, Jr.  
Dr. W. Dallas Herring

Enclosure

R/V Advance II

TENTATIVE SCHEDULE

*fall quarter*  
November 3-7

Student training cruise

November 17-21

N.C.S.U. (work can probably be accomplished  
in 2 full days. Will return scientists  
to dock and finish student training cruise

*winter quarter*  
December 1 - 5

Dr. George (or student training) *(NCL)*

8 - 12

Student training cruise

15 - 19

Student training cruise

1976

January 12 - 16

Student training cruise

19 - 23

Student training cruise

February

No cruises scheduled because Coast Guard  
inspection/drydocking required.

*spring quarter*  
March 8 - 12

Dr. George *(NCL)*

22 - 26

Student training cruise

April 5 - 8

N.C.S.U. - Dr. Pietrafesa

19 - 23

Student training cruise

26 - 30

Student training cruise

May 3 - 7

Student training cruise

10 - 20

N.C.S.U. - Dr. Pietrafesa

June	Open
July 26 - 30	Dr. George <i>W. W. W.</i>
August 5 - 8	N. C. S. U. - Dr. Pietrafesa
September 2 - 16	N. C. S. U. - Dr. Pietrafesa
October	Open
November	Open
December	Open

INQUIRIES REGARDING ADVANCE II  
CHARTER

Mr. Bart Marcy  
NUS Corporation  
1910 Cochran Road  
Pittsburgh, Pa. 15220

Desires four 3-4 week projects over period of next two years. Working South Atlantic area - Cape Hatteras, N. C. to Cape Canaveral, Florida

Dr. Jim Marlowe  
Bames & Moore Company  
6 Commerce Street  
Cranford, New Jersey

Maximum of 27 days between January 15 and February 15, 1976. Working in petroleum lease area around Baltimore Canyon.

Mr. W. E. Ward  
National Ocean Survey  
NOAA-Department of Commerce  
Rockville, Maryland 20852

Requires about 3 weeks in February, 1976 (14 days on station) in Baltimore Canyon area. STD work, bottom samples, current meter array deployment. (Required winch that could handle 10,000 ft. of .45" conductor cable. Winch on Advance II does not have this capability. Mr. Ward said he would call us if he could not find a ship able to handle the cable.)

Mr. Robert Lattimore  
D'Appalonia Engineering  
Consultants  
Pittsburgh, Pennsylvania

2-3 weeks total time required between February 15 and March 15, 1976. Working on geophysical study 50 miles off Atlantic City, New Jersey. Charter dependent upon acceptance of proposal submitted by this company.

Dr. Frank Barvenik  
Brookhaven National Lab  
Department of Applied Sci.  
Upton, New York 11973

Requested 30 days ship time during summer of 1977.

ORGANIZATION OF NORTH CAROLINA BOARD OF EDUCATION

BOARD OF EDUCATION

Department of Public Instruction

Superintendent - A. Craig Phillips (3813)

Division of Occupational Education

Director - Charles Law (7362)

Deputy Director for Field Services - Robert A. Mullen (7362)

Department of Trades and Industry

Chief Consultant - Ted Rollins (7421)

Consultant - Adam Thompson (7423)

Department of Community Colleges

President - Ben E. Fountain, Jr. (7051)

Cape Fear Technical Institute (Wilmington)

President - M. S. McLeod

Carteret Technical Institute (Morehead City)





North Carolina Department of Natural & Economic Resources

JAMES E. HOLSHOUSER, JR., GOVERNOR • JAMES E. HARRINGTON, SECRETARY

DIVISION OF MARINE FISHERIES

EDWARD G. MURPHY, DIRECTOR

BOX 17687 RALEIGH, N.C. 27617  
TELEPHONE 919-875-7100

September 23, 1975

RECEIVED  
SEP 24 1975

County High School District

LEGISLATIVE SERVICES OFFICE

MEMORANDUM

TO: Bill Potter  
FROM: Leo Tilley *Leo L.*  
ASSISTANT DIRECTOR, DIVISION of MARINE FISHERIES

Following is a list of Marine Fisheries Training Vessels and their locations:

DIVISION OF MARINE FISHERIES - MOREHEAD CITY

- R/V DAN MOORE - 85 ft. used for research
- NEUSE - 46 ft. used in Artificial Reef Program
- ROSE BAY - 110 ft. self propelled barge used in Shellfish Program (Wilmington)
- STONES BAY - 50 ft. self propelled barge used in Shellfish Program
- RALEIGH BAY - 61 ft. used for patrol
- CAPE LOOKOUT - 45 ft. (to be sold)

UNC-INSTITUTE OF MARINE SCIENCE - MOREHEAD CITY

- R/V MACHAPUNGA - 45 ft. used for research
- R/V SARA-HELEN - 45 ft. used for research

CAPE FEAR TECHNICAL INSTITUTE - WILMINGTON

- R/V ADVANCE - 185 ft. listed as "facility" on inventory
- THE NORTH STAR - 72 ft. used for research and training
- THE HUTTON - 56 ft. used for research and training
- THE ELM - 72 ft. used for research and training
- An unnamed 100 ft. supply ship which is not operational at this time

CARTERET TECHNICAL INSTITUTE - MOREHEAD CITY

- Unnamed 1940 LSN (32 ft.) not operational at this time - Navy surplus
- Unnamed 1940 Utility boat (40 ft.) not operational at this time - Navy surplus

BRUNSWICK COUNTY BOARD OF EDUCATION - SOUTHPORT

CAPE FEAR - 46 ft. used for training. This vessel was purchased from the Division of Marine Fisheries.

NOT FISHING VESSEL - PATROL VESSEL  
(NOT TRAINING (CATCH FISH & HOW TO LIVE & WORK ON FISHING VESSEL)

DUKE UNIVERSITY - Pivers Island

R/V EASTWARD - 121 ft. used for research and training

R/V THE VENUS - 32 ft. used for research and training

R/V THE BEVRIDGE - 50 ft. used for research and training

The institute of Marine Bio-Medical Research at Wrightsville Beach and UNC-Wilmington uses Cape Fear Tech vessels for their activities. Several county school systems own boats which are less than 30 feet long such as skiffs, inboard-outdrives and outboards.

LT/cj

cc: Victor W. Barfield

APPENDIX VII



North Carolina General Assembly  
Senate Chamber  
State Legislative Building  
Raleigh 27611

October 30, 1975

COMMITTEES:

INSURANCE, CHAIRMAN  
AGRICULTURE  
BANKING  
FINANCE  
RULES AND OPERATIONS OF  
THE SENATE  
STATE GOVERNMENT

SENATOR BOB L. BARKER  
14TH DISTRICT  
HOME ADDRESS: 14116 WYNDFIELD CIRCLE  
RALEIGH, N. C. 27609

Mr. Nat Robb  
State Property Officer  
State Property and Construction Office  
Administration Building  
Raleigh, North Carolina 27611

Dear Mr. Robb:

By the ratification of House Bill 296 from the 1975 General Assembly (S.L. 1975, c.851; copy enclosed) the Legislative Research Commission was directed to study a state fisheries training vessel program and to "examine the motor pool approach to State-owned vessels where all departments would have access to some use of vessels now under exclusive departmental control." I have been appointed to the Research Commission and given the responsibility for planning the training vessel study.

The main thrust of the efforts supporting the study was a desire to find training vessel facilities for existing and planned expansion programs of fisheries training through high school occupational education under the Department of Public Instruction. I would like to have some preliminary written comments from the State Property and Construction Office on the general philosophy of ownership of state property as it relates to the proposed sharing of vessels that will be under study.

Sincerely,

Bob L. Barker

BLB:hc

Encl.

*Fili*

OFFICE OF  
STATE PROPERTY  
AND CONSTRUCTION

A. L. HENDERSON, P. E.  
STATE PROPERTY AND  
CONSTRUCTION OFFICER

North Carolina Department  
of Administration

JAMES E. HOLSHOUSER, JR., GOVERNOR • BRUCE A. LENTZ, SECRETARY

December 4, 1975

Senator Bob L. Barker  
14116 Wyndfield Circle  
Raleigh, N. C. 27609

Re: Fisheries Training Vessel Study Committee

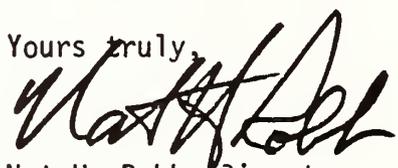
Dear Mr. Barker:

In your letter of October 30, 1975, you have asked for comments on the general philosophy of ownership of State property as it relates to proposed sharing of vessels for a State Fisheries Training Program. I apologize that you have not received a reply to the letter prior to the November 25th memorandum which has brought it to my attention.

After reading your letter, I am not sure as to what comments would be in order from this office. It would present no problem as far as State ownership of land or facilities in such an arrangement. Once the Legislature has appropriated funds for such a facility, this office could purchase the real estate necessary. One agency should be allocated the facility in order to manage it.

I have a feeling that I may not be answering the question that you are really asking in my above response. If you would like to meet with me at some time and let me try to understand more what information you desire, I will be happy to do so. You may write this office or call me at 829-4346 and I will make myself available to you.

Yours truly,



Nat H. Robb, Director  
State Property Office

NHR: cab



